

CLAIMS

WHAT IS CLAIMED:

5 1. A method for optimizing radio frequency coverage in a radio communication network, the radio communication network including a plurality of base station receivers coupled to a switch for communication with at least one mobile station, the method comprising:

querying the switch for data related to the radio coverage provided by the communication network;

sending the data to a monitoring device; and

10 generating a report related to the data received by the switch, the report indicating areas of the communication network providing sufficient, deficient or redundant radio coverage in the communication network.

15 2. The method of claim 1, wherein sending the data to a monitoring device further comprises:

determining a total number of messages received for each base receiver in the communication network for a specified period of time; and

20 sending the total number of messages received for each base receiver to the monitoring device.

25 3. The method of claim 2, wherein sending the data to a monitoring device further comprises:

determining a total number of unique messages received for each base receiver for the specified period of time, the unique messages indicating a message received by only one base receiver; and

sending the total number of unique messages received for each base receiver to the monitoring device.

4. The method of claim 3, wherein sending the data to a monitoring device  
5 further comprises:

determining a total number of shared messages received for each base receiver for the specified period of time, the shared messages indicating those messages that were also received by another base receiver; and

10 sending the total number of shared messages received for each base receiver to the monitoring device.

5. The method of claim 4, further comprising:

calculating a percentage of shared messages between one base receiver and each of the other base receivers of the communication network, the percentage of shared messages being the total number of shared messages for each base receiver divided by the total number of messages received.

6. The method of claim 4, further comprising:

calculating a percentage of unique messages for each of the base receivers of the communication network, the percentage of unique messages being the total number of unique messages for each base receiver divided by the total number of messages received for each base receiver.

7. The method of claim 5, wherein generating a report related to the data  
25 received by the switch further comprises:

generating a report conveying the percentage calculated from the shared messages between one base receiver and each of the other base receivers of the communication network.

5           8.     The method of claim 6, wherein generating a report related to the data received by the switch further comprises:

generating a report conveying the percentage of unique messages calculated for each of the base receivers of the communication network.

10           9.     The method of claim 6, further comprising:

establishing a threshold value related to the percentage of unique messages for each of the base receivers of the communication network;

determining whether the established threshold value has been exceeded by the percentage of unique messages for each of the base receivers; and

15           providing a visual indication providing that the established threshold value has been exceeded.

20           10.    A system, comprising:

a plurality of base station receivers that communicate via radio with at least one mobile station;

a switch that couples the base station receivers; and

a monitoring device that queries the switch for data related to the radio coverage provided by the base station receivers and generates a report related to the data

received by the switch, the report indicating areas of the system providing sufficient, deficient or redundant radio coverage by the base station receivers.

11. The system of claim 10, wherein the switch determines a total number of  
5 messages received for each base receiver for a specified period of time and sends the total number of messages received for each base receiver to the monitoring device.

12. The system of claim 11, wherein the switch determines a total number of  
10 unique messages received for each base receiver for the specified period of time, the unique messages indicating a message received by only one base receiver, and sends the total number of unique messages received for each base receiver to the monitoring device.

13. The system of claim 12, wherein the switch determines a total number of  
15 shared messages received for each base receiver for the specified period of time, the shared messages indicating those messages that were also received by another base receiver, and sends the total number of shared messages received for each base receiver to the monitoring device.

14. The system of claim 13, wherein the monitoring device calculates a percentage  
20 of shared messages between one base receiver and each of the other base receivers, the percentage of shared messages being the total number of shared messages for each base receiver divided by the total number of messages received.

15. The system of claim 13, wherein the monitoring device calculates a percentage  
of unique messages for each of the base receivers of the communication network, the

percentage of unique messages being the total number of unique messages for each base receiver divided by the total number of messages received for each base receiver.

16. The system of claim 14, wherein the monitoring device generates a report  
5 conveying the percentage calculated from the shared messages between one base receiver and each of the other base receivers.

17. The system of claim 15, wherein the monitoring device generates a report  
10 conveying the percentage of unique messages calculated for each of the base receivers of the communication network

18. The system of claim 15, wherein the monitoring device determines whether an  
established threshold value has been exceeded by the percentage of unique messages for each  
of the base receivers and provides a visual indication providing that the established threshold  
15 value has been exceeded.